

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-7. Canceled.

8. (Currently Amended) A transmitter for use in a multicarrier communication system where a symbol transmitted by a transmitter has peak to average power ratio as a function of a plurality of signals, each one of the plurality of signals being centered at one of plurality of frequencies wherein a subset of the plurality of signals are configured to reduce the PAR before the symbol is transmitted along a transmission channel and where the subset of signals are further configured to include a response of the transmission channel, said transmitter comprising: A transmitter as defined in claim 7, including:

- (a) an encoder for encoding a first set of data into a plurality of sets of data;
- (b) a modulator coupled to the encoder for receiving the plurality of sets of data and (c) modulating each set of data of the plurality of the sets of data to produce the plurality of signals which are combined;
- (c) a first inverse Fourier transformer coupled to the modulator, the inverse Fourier transformer operative to perform an inverse Fourier transform on the combined plurality of signals producing a transformed signal;
- (d) a first power reducer coupled to the inverse transformer, wherein the power reducer is operative to analyze the transformed signal and to detect any peaks in the transformed signal, and if a peak is detected, the power reducer being operative to apply a kernel to the peak of the transformed signal by adjusting the kernel, wherein the kernel is an approximation of an impulse response generated from the subset of the plurality of signals such that the kernel is adjusted by scaling and time shifting; and

(e) a second power reducer coupled to receive a weighted transformed signal and a weighted kernel for analyzing the weighted transformed signal and for detecting any peaks therein if a peak is detected, the second power reducer being operative to apply the weighted kernel to the weighted transformed signal by applying scale and shift values to the weighted kernel such that said scale and shift values are used by said first power reducer for respectively scaling and time shifting said kernel, such that said ~~weighting~~ weighed kernel includes the effects of said transmission channel.

9. (Currently Amended) A transmitter for use in a multicarrier communication system where a symbol transmitted by a transmitter has peak to average power ratio as a function of a plurality of signals, each one of the plurality of signals being centered at one of plurality of frequencies wherein a subset of the plurality of signals are configured to reduce the PAR before the symbol is transmitted along a transmission channel and where the subset of signals are further configured to include a response of the transmission channel, said transmitter comprising: A transmitter as defined in claim 7, further including:

(f) a cyclic prefix insertion module coupled to said inverse Fourier transformer;

(g) a filter for receiving an output from said cyclic prefix insertion module;
and

(h) a power reducer coupled to the output of said filter, wherein the power reducer is operative to analyze the output from said cyclic prefix ~~model~~ insertion module to detect peaks in the signal, and if a peak is detected, the power reducer is operative to apply a modified kernel to the peak of the signal by adjusting the modified kernel wherein the kernel is an approximation of an impulse response generated from the subset of the plurality of signals such that the kernel is adjusted by modifying the subset of plurality of signals and wherein the kernel is further modified using the impulse response of the filter to produce the modified kernel whereby the effect of the filter is included in the reduced PAR of the symbol.

10. (Original) A transmitter as defined in claim 8, wherein the transmitter is an XDSL transmitter.

11. Canceled.

12. (New) A transmitter as defined in claim 9, wherein the transmitter is an XDSL transmitter.